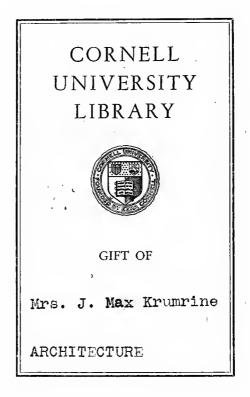
ANNUALS AND BIENNIALS

CHORAPRUIDID BERNARDE











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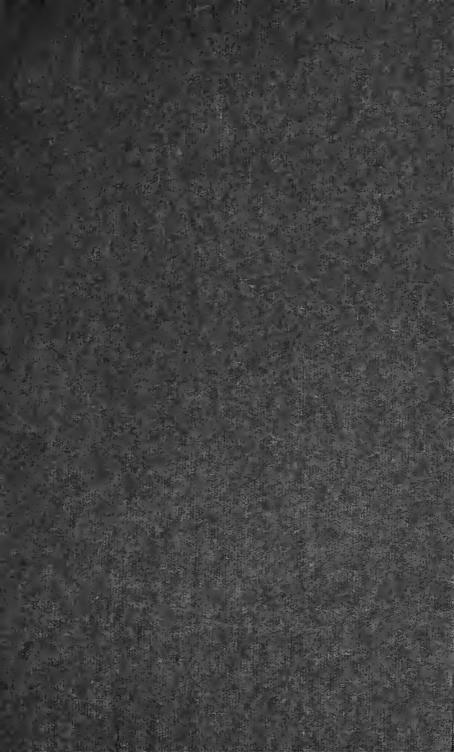
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ANNUALS AND BIENNIALS





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ANNUALS & BIENNIALS

THE BEST ANNUAL AND BIENNIAL PLANTS AND THEIR USES IN THE GARDEN

BY

GERTRUDE JEKYLL

WITH CULTURAL NOTES BY

E. H. JENKINS

LONDON

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INTRODUCTION

THOSE who are not well acquainted with annual plants are often bewildered by their numbers; and, consulting the attractive pages of seedsmen's catalogues, where a large number receive nearly equally unstinted praise, they are at a loss to know which are those that can most profitably be grown for the beauty of the garden.

The purpose of this book is to give practical advice as to the choice of kinds, to point out which are the best, to give simple cultural directions, and to offer a few suggestions relating to the use of annuals and biennials in various departments of garden practice.

For cultural purposes it is convenient to class annuals in two divisions, namely, hardy annuals that are sown in the open ground, either in September for early flowering the year following, or from March to May for a middle and late display in the summer of the same year; and half-hardy annuals that are grown in pots, pans, or boxes in a slight heat in a greenhouse or frame, then pricked off into other boxes or a prepared frame when of a convenient size to handle. hardened off by gradual inuring to the open air, and are finally planted in their places at the end of May or beginning of June. Autumn-sown annuals are in fact treated as biennials, except that in the case of true biennials these are sown earlier in the year—from the beginning of July to the middle of August. Annuals when sown in autumn are much more vigorous than when sown in spring.

Biennials are plants that must be grown one year to flower the next; of these some of the best known examples are Wallflowers, Sweet Williams, and Canterbury Bells. There are also a number of plants from tropical and subtropical regions that are actually perennial but are not hardy in our climate; these it is convenient to grow as biennials, giving winter protection and planting out at the end of May or beginning of June. Any divergence from the above general rules of culture, treatment, or time of sowing will be found mentioned in the note relating to the plant.



IN THE GARDEN OF ANNUAL FLOWERS AT GUNNERSBURY HOUSE.



PART I



CHAPTER I

SOME WAYS OF USING ANNUALS AND BIENNIALS

ANNUALS are not so often used in borders by themselves as they might be. Quite unusual effects may be made by them alone, especially if borders for special seasons are required. Thus, spring-sown plants will make a display from the middle of July to near the end of August, or, in the case of autumn-sown plants, the show will be from the middle of May to the end of June. It is very desirable to have such annual borders in places where, as is often the case, there is ample room in a large kitchen garden. It will, of course, be all the better if the place is screened from the usual vegetable crops by a hedge-like row of Globe Artichoke. in itself one of the finest of garden plants, or, in the case of autumn sowing, by a hedge of Sweet Peas.

Annuals are of special use in the case of a garden occupied on a short tenancy, for not only is there an ample choice of good things for Ways of Using Annuals and Biennials

flower borders, but there are climbers to form arches and bowers or to train up house-walls, and there are the giant gourds and others of curious shapes and brilliant colourings, with which any roughly constructed pergola may be quickly covered. The same gourds, both large and small, also serve to cover any unsightly heap or mound of rubbish or bare bank, and are all the better for the company of the gorgeous trailing Nasturtiums.

A Rose garden has often unbeautiful bare spaces of earth; here nothing is more delightful than wide sowings of Mignonette; if the roots of the annual claim something of the goodness of the bed the slight degree of exhaustion is more than compensated by the spreading plants covering the ground surface and keeping it cool.

Small bare spaces at the foot of shrubs near paths should be sown with *Matthiola bicornis*, the Night-scented Stock, a modest plant that has no particular beauty by day but gives out a delicious fragrance in the evening.

For beds by themselves or for larger spaces between shrubs, or for any place where a temporary filling is desired of plants of important aspect, there are the Tobacco plants (*Nicotiana*), the tall hardy Balsams (*Impatiens*), Maize, Castor Oil plants, Mulleins, Foxgloves, Solanums, and Lavatera. Then, again, for beds or for filling spaces in borders of perennials there is the whole





Borders for Spring Bulbs

range of half-hardy annuals and biennials, such as Marigolds, French and African, in considerable variety; Wallflowers, Stocks, Canterbury Bells, Sweet Williams, Pentstemons, Snapdragons, Hollyhocks, China Asters, and others.

Borders for spring bulbs can conveniently be arranged with autumn-sown annuals. They are prettier if the plants are placed in successive stripes diagonally across the border. Some of the bulbs, Daffodils for instance, will remain in their places for two or three years; Tulips or any others that have to be lifted can be taken up at the end of June when the best bloom of the annuals will be over. Seven feet is a convenient width for such borders.

CHAPTER II

RAISING ANNUALS IN GREENHOUSE OR FRAME

By E. H. JENKINS

I

ANNUALS roughly divide themselves into three classes : "hardy," those which may safely be sown in the open air; "half-hardy," those which should be raised in greenhouse or frame and subsequently transferred to the open ground; and "tender," such as require to be raised and grown under glass, to bring them to perfection. It should be stated, however, that guite a large number of the obviously hardy kinds are annually sown under glass, some for convenience; others, and these largely in the majority, for market work or commercial purposes. Others, too, as Pentstemons and Antirrhinums, which, being perennial, have no claim to be classed among annuals, give such excellent results when treated as such, that each year considerable quantities are sown in warmth under glass



SEEDLING ANTIRRHINUMS AT ALDENHAM HOUSE GARDENS.



during January and February, and with correct cultivation produce sturdy little bushes for planting in the open in April or quite early May. Many perfectly hardy kinds, as Sweet Pea, Cornflower, Nasturtium, and Chrysanthemum, are also raised in this way, or, its near equivalent, the frame.

Raising seeds under glass, therefore, be it greenhouse or frame, is possessed of many advantages. In the first place, the seed-pans or boxes are under control. Removed from the interferences of birds and animal pests, and secured from extreme changes of weather, a maximum seed-production results. These are important. It has, however, its drawbacks and disadvantages --- pitfalls alike to the amateur and inexperienced, from which the more expert cultivator is immune. They are chiefly errors of cultivation : too much heat and moisture. and inability to anticipate the need for pricking off or transplanting at the right moment. There are errors of judgment, too, which, in conjunction with some or all of the above, may be attended by fatal results or poor success. The worst of these is a too early sowing of the seeds, and, transplanting neglected, thin, lank plants result, and, becoming hide-bound as they not infrequently do, never subsequently develop. It is the over-anxious-often impetuous-and too enthusiastic amateur who invariably does

II

Raising Annuals in Greenhouse or Frame

this kind of thing; the more thoughtful worker, having bought and paid for his experience, starting two or three weeks later, winning in a canter in the end. Hence, while greenhouse and warmth might prove great time-savers on the one hand, a misuse of them on the other would be prejudicial to good results at the times of planting and flowering. The aim should be to provide sturdy, free-developing plants of medium size at the right moment, to the exclusion of thin and overdrawn, or others of excessive size. The former never develop; the latter rarely transplant well. In these circumstances those thirsting for knowledge would naturally inquire what is

The right time to sow, and what is the right temperature? For the former only an approximately correct date can be given; the requisite temperature may be stated more definitely. As to sowing, except for such things as Heliotrope, Lobelia, Verbena, and the fine foliage subjects used in bedding arrangements, and which require to be sown during February or early in March in a temperature of 55° , the majority may be sown from the middle to the end of March, in a temperature of about 45° . From the moment the seed-leaf stage is passed the seed-pans or other receptacles should be arranged near the glass in a light, well-aired position to promote a sturdy growth, trans-



A SEEDLING VIOLETTA. Note its compact habit and sturdy flowers.



The Best Receptacles for Sowing

planting the seedlings when one or two rough leaves have been formed. Great care and vigilance will be needed in supplying water at such times, and a watchful eye must be kept so that the soil does not dry up too frequently. Chronic root - dryness can only end in failure, and must be guarded against. It is not infrequent where shelves are employed. Arranging the seed-pans on an improvised or temporarily raised stage near the glass on ashes or cocoa-nut fibre is to a great extent a safeguard against such happening. Something should also be said in respect of

The best receptacles for sowing.—Those most commonly employed are boxes and pans, though pots will do equally well, if taking more space. Boxes are cheapest, but are liable to dry up quickly. Square seed-pans are somewhat expensive, but, with care, last for years. Practical and experienced cultivators prefer the boxes called "seed-trays." They are light, easily handled, and cheap, and are about 2 inches deep, 9 inches wide by 15 inches long. The bottom boards are slightly parted to assist drainage and covered with a little cocoa fibre : no further drainage material is necessary. Pans are procurable in various sizes and should be well drained. Pots, if employed, should be filled to nearly one-half their depth with drainage material. A11 receptacles should be dry and quite clean.

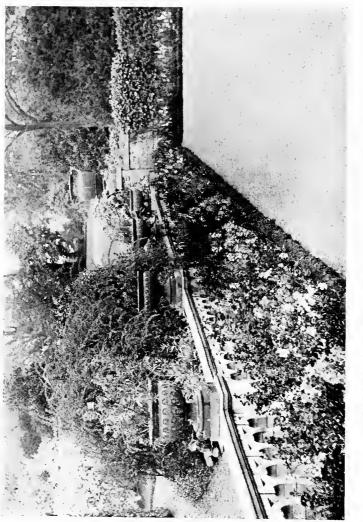
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Raising Annuals in Greenhouse or Frame

Soil for seed sowing should be fairly rich, finely pulverised by passing through a small mesh sieve, and moderately dry. A mixture of light loam, well-decayed leaf-mould, and sharp sand in about equal parts will be quite suitable. A slight addition of old manure. freed of worms and other insect life by heating in an oven or under the stoke-hole fire, may be also employed. It is, however, not essential. All receptacles should be made ready in advance, the soil pressed moderately firm in process of making up, and well saturated with water twenty-four hours in advance of being required for use. This is important. The covering soil for all seeds should be of the finest description, varying in thickness of one-eighth of an inch for the finer seeds to one quarter of an inch for those of larger size. Seeds of certain plants, e.g. the Chinese Primulas, though moderately large, are impatient of much soil covering, a point worth remembering. Begonia and Calceolaria among the finer seeds may be sown practically on the surface, a shilling-thick covering of clean wellwashed silver sand sufficing for the purpose.

II

To prevent loss and to avoid an irregular vegetation of the crop all seeds should be sown on a moderately firm and quite even surface.





The Importance of Moisture

In the case of pans and boxes, a small section of floor boarding lightly pressed over the surface will accomplish this. In the case of pots the flat base of one of like size as the receptacle will do quite well. With the seeds sown and covered in, all should be watered gently overhead from a fine rose can. From this time onwards to the vegetating of the seeds it is important that neither excess of moisture nor dryness be permitted to exist. Equally important is it that too frequent watering be avoided. To this end and to avoid undue evaporation of moisture all seed-pans should be protected from strong sunlight by shading with brown paper or thin tiffany. Given this, a mist-like spray from the syringe daily will often suffice for days together. It should be done in the early forenoon. А good plan with the finest, most lightly covered seeds is never to water overhead, but to hold the receptacles nearly their full depth in a vessel containing water for a minute or two when necessary. Once the seeds have commenced to grow, the soil should on no account be suffered to become dry. Many failures are due to this alone. Excess of wet is equally bad, and the "dampingoff "fungus (Pythium) resulting, seedlings perish wholesale. With the appearing of the seedlings the permanent shading should be removed, a thinner shade being employed when necessary during strong sunlight a few days longer.

Raising Annuals in Greenhouse or Frame

Sowing the seeds thinly .- Despite the fact that the injunction to "sow thinly" has been reiterated a thousand-and-one times, the opposite extreme is still a commonplace with gardener and amateur alike. Seeds sown after the manner of mustard and cress are hampered from the very moment they appear, and, with timely thinning neglected, foredoomed to partial or complete failure. The thick sowing of seeds of all descriptions is in some measure due to their cheapness, plus not a little ignorance of the early development of the seedling. These things are opposed to success, and a sturdy plant is impossible. Hence once again is it necessary to urge the hackneved phrase, "Sow thinly." The smallest seeds produce often enough large cotyledons (seed leaves), the still larger often laterally disposed rough leaves following immediately, hence the difficulty of laying down any hard-and-fast rule from the seeds alone. On the diameter of a shilling a hundred or five times that number of seeds may find room in a single layer, while to sow them thinly a 10-inch square seed-pan may be none too large. In sowing the smaller seeds a peppering of clean silver sand first given to the sowing area will assist the operator to a more uniform-also thin -distribution of the seeds. On darker soils it is not possible to see where the seed falls.

Thinning and pricking off.-These bear some



A BORDER OF STOCKS.



Thinning and Pricking Off

relation to each other and to the seed-sowing, and follow next in order and importance. Timely pricking off, while no panacea against the dangers arising from thick sowing, certainly reduces some of its risks and should be indulged in as early as possible. With many seedlings the appearing of the first rough leaf is considered a good time, the seedlings then having a sufficiently advanced root-system to admit of the work being done with safety. Even in the case of thinly sown seeds, pricking off should not be unduly delayed since the isolation the operation affords in conjunction with better soil is calculated to give the youngster a good start in life. Tap-rooted or sparsely-rooted subjects rarely prick off well, hence the need for greater care in dealing with them. Here a word of warning to the amateur may not be out of place, the professional is already aware of it. It is this. Do not rely too much on the more vigorous seedlings to the discarding of the smaller; the latter give, frequently enough, the finer varieties. The soil for pricking off should be of rougher texture than that recommended for seed-sowing; it should also contain less sand and more finely sifted manure.

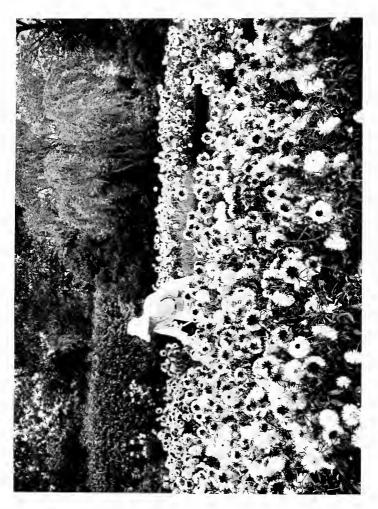
Raising in frames does not differ materially from raising in the greenhouse, and is, at most, but a question of degree. There are, of course, the differences of the warmed and cold frames,

Raising Annuals in Greenhouse or Frame

and each has its own value. A well-managed hot-bed of leaves and manure is, indeed, one of the best places to raise seedlings, Cineraria, Calceolaria, Zinnia, and China Aster, among others, revelling in the degree of warmth, humidity, and the ammonia-charged atmospheric conditions that obtain. To some extent the seedling plants, too, are more immune from the attacks of aphides (green and other fly pests) than those raised under ordinary conditions. The ordinarily made dung-bed will require greater care. Excessive heat and rank steam are injurious, therefore to be avoided. Ventilation, too, is important. A safeguard against the former is a shallow bed of manure, say I foot in thickness when settled down, or $I_{2}^{\frac{1}{2}}$ feet when first made up. Watering, too, must be done with care, the amount of humidity in the frame and the condensing moisture playing important parts. Watering with tepid water is to be recommended, likewise the use of a thermometer. A temperature between 45° and 50° will do quite well.

The *cold frame* should occupy a sun-kissed spot. It is of especial value in cold districts and in gardens generally where, by reason of heavy and retentive soil conditions, seed-sowing in the open air rarely brings success. In certain other instances—the small amateur more particularly—the frame often enough is the only

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bit of glass existing, though, to his credit be it said, it is frequently engineered with skill, and prodigal of good results. As an adjunct to the greenhouse and warmed frame it also merits attention, a two-light frame with division being alike useful for raising seedlings and for hardening off. Seedling-raising in the cold frame is naturally a slower process though assisted by increasing sunlight and sun-heat. At the same time the plants so raised are of a sturdy and hardy nature and with ordinary care transplant well. Mid-March to early April will be found a good time to make a start, keeping the seed-pans or other receptacles quite near the glass. Less water will be needed generally, though soil dryness must always be guarded against. Confined damp-a stuffy conditionwhether here or in the heated frame, must be avoided : nothing so much favours the creation and spread of the "damping-off" fungus as this and too frequent watering. In other respects, the cultural conditions already given apply, the measure of success attained being also the measure of the prevailing intelligence and enthusiasm of individual workers.

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CHAPTER III

ANNUALS AND BIENNIALS FOR AUTUMN SOWING

Alyssum. Asperula. Bartonia. Cacalia. Clarkia. Collinsia. Cornflower. Crepis. Delphinium. Erysimum. Eschscholzia. Gilia. Godetia. Gypsophila. Iberis. Kaulfussia.

Larkspur. Lavatera. Leptosiphon. Limnanthes. Linaria. Nemophila. Nigella. Omphalodes. Papaver. Phacelia. Platystemon. Saponaria. Scabiosa. Silene. Sweet Pea. Sweet Sultan.





CHAPTER IV

ANNUALS AS EDGINGS

A CERTAIN number of annuals stand out conspicuously as good edging plants, while others from their dwarf habit can also so be used; but those in this second category are less valuable because of their shorter time of blooming.

One of the best edging annuals is Sweet Alyssum (Alyssum maritimum or Königa maritima). It is dwarf and neat in habit, and, beginning in July, or even earlier-the seed being sown in March-it continues in flower till well on in September. It is not really an annual, though generally grown as one. Allied to this, and also among the best edging plants, there are the varieties of Iberis umbellata in colourings from white to purple. Double Daisies (Bellis perennis), commonly grown as biennials, make very neat edgings; though one is tempted to keep them on from year to year, it is better to be provided with fresh plants, as the bloom is inclined to deteriorate though the good foliage remains. Snapdragons, both of the quite dwarf

D

Annuals as Edgings

and of the intermediate kinds, are capital for edgings. As with the taller ones, they are best treated as half-hardy; sown early, pricked off, and put out towards the end of May. Of others that are grown as half-hardy plants there are the dwarf Nasturtiums, brilliant things in many colourings from palest yellow to deepest mahogany crimson; they should be in rather poor soil, so that the bloom may rise well above the foliage. The dwarf Ageratum is one of the most valuable of edging plants; the one called "Swanley Blue" is a good kind both for colour and habit; put out in early June it will bloom throughout the late summer and to the end of September. Phlox Drummondi and Dianthus sinensis have so much the same use that they may be considered together as desirable dwarf plants loving full sunshine. The beautiful blue of Lobelia Erinus makes it one of the most precious of the dwarf summer flowers. Where a green edging is desired there is the curious and interesting Ice-plant (Mesembryanthemum crystallinum), covered with icy-looking watery globules. It likes a warm exposure, but must not be dried up. Golden Feather Feverfew should not be neglected because it is so common and so easy to grow and because it was so much overdone in monotonous lines in the old bedding days. Many good plants have of late suffered from a kind of mistaken prejudice on this account.



AN EDGING OF WHITE ALYSSUM.



French Marigolds

But it should be remembered that if the plant was misused it was not the fault of the plant but that of the general acceptance of a poor type of gardening. The little Feverfew is a beautiful and delightful thing, useful where an edging accompanies plants of gold-variegated foliage and pale yellow bloom. It can be variously treated, either by letting it bloom, when its colouring of white and pale gold combines pleasantly with the gold-green leaves, or with the bloom picked out so as to leave a dwarfed plant of foliage only. Among the quite dwarf French Marigolds there are a number of pretty little edging plants; the smallest, known as Miniature, are only from 4 to 6 inches high, and are in separate colours of lemon, orange, and that fine mixture of deep orange and mahogany brown that is so valuable in all these handsome plants. Tagetes signata pumila will come among this group, very dwarf and of fine orange colouring. A pretty dwarf Marigold that is undeservedly neglected is Tagetes lucida, a short, neat plant of rather upright habit and deep vellow flowers, with a pleasant scent like Anise.

Among the annuals that are suited for edgings and that are sown in place, some of the best are the dwarf Eschscholzias of deep orange and crimson colourings. The pretty double Daisy, *Matricaria inodora*, a garden form of the familiar

Annuals as Edgings

May-weed of corn stubbles, is a good edging plant, for the dark green, finely divided leaves keep near the ground, and the handsome pure white flowers do not rise many inches above it. The remaining annuals suitable for edgings are all sown where they are to bloom, but are shortlived in comparison with those noted above. They are, among those of blue colouring, Anagallis Monelli and A. Philipsi; Asperula azurea setosa, a charming plant with grey-blue bloom; Phacelia campanularia, a true and splendid blue; Kaulfussia amelloides, a pretty little South African Daisy, and the well-known and always charming Nemophila insignis. Collinsia bicolor has lilac and white flowers, and was deservedly a favourite in old gardens. Among yellows there are Limnanthes Douglasi and Platystemon californicus, both of trailing habit. Among pink flowers there are the wellknown Silene pendula in several shades of colouring, with a white variety, and Saponaria calabrica, a plant of trailing habit.

The word "edging," as applied to these small plants, is not necessarily intended to suggest anything stiff or rigid, like a Box edging. It is meant rather as a sensible use of the plants at the front edge of a flower border, whether the border is of annuals only, or of perennials with tender summer plants. The prettiest form of edging is not a straight line at the extreme edge,



GODETIAS AND DWARF WHITE ALYSSUM AS EDGINGS TO A PATHWAY. Seeds can be sown outdoors early in April.



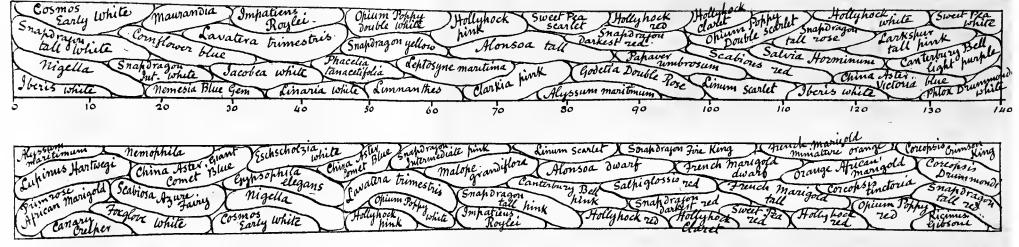
Informal Planting

but to let the plants accompany good groups of taller things as a kind of free carpeting; the dwarf plant not only coming to the front, but running a little way back between the others, in such a way as to be quite informal. As an example, in a planting of summer flowers, if there is a main patch of Salvia patens and in front of it the pretty blue Cape Daisy, Agathea cælestis, this would be carpeted with the dwarf Lobelia Erinus, and for a good distance, such as 8 or 10 feet, if the border is of some length. This group might give way, by a gradual interplanting, to another of white flowers, such as tall white Snapdragons and double white Marguerite; then, coming forward, intermediate and dwarf white Snapdragons, with an edging of Sweet Alyssum, and so on.

CHAPTER V

COLOUR SCHEMES WITH ANNUALS

WHAT is meant by colour schemes is not merely the putting together of flowers that look well side by side, but the disposition of the plants in complete borders in such a manner that the whole effect together is pictorial. It is done by means of progressive harmonies-harmonies throughout being the guiding principle, contrasts the occasional exception. In the days of less enlightened gardening, about the middle of the last century, anything that was aimed at in the way of colouring was nearly always some violent contrast, or the putting together of crudely coloured flowers; a pleasant harmony was scarcely thought of. Such a combination as scarlet Geranium and blue Lobelia was then admired, and so on with all the plants, excellent in themselves for better use. that were then available-for garish effects were then deliberately aimed at; now that more thoughtful ways prevail we try for something better than garishness-we try for the nobler colour-quality



A DOUBLE BORDER OF ANNUALS AND BIENNIALS.



MECONOPSIS WALLICHII. The flowers are lilac blue.



Colour Harmonies

of sumptuous splendour. In acquiring this we get even more brilliancy; the eye and mind are filled with a consciousness of delightful satisfaction of attainment instead of their being, as it were, rudely attacked, and, in the case of the more sensitive among us, actually shocked by a harsh crudity that has some of the displeasing qualities of vulgarity.

Although the more reasonable and enjoyable way of putting flowers together can be better done with the tender summer plants of stouter habit, such as Dahlias, Cannas, Geraniums and the rest, it is well to apply the same principle to borders of annuals. The plan shows a double border so arranged. It only names a portion of the much larger number of annuals that could be grouped together, or with those shown, and possibly in quite different ways, but always with the same intention. It begins on the left with blue or bluish flowers with white, or both white and a little pale yellow. There is some quality about blue that invites contrast as an alternative to harmony, for the scheme would be almost equally pictorial if, instead of merging the blues into yellow or pale pink, it led them to lilacs and purples; but in my own practice I prefer treating the pure blues with contrast of white or yellow. For the rest, the whole is in a harmonious sequence. Whether the blues reach the strong yellows through pink or pale yellow

Colour Schemes with Annuals

can be decided according to the preference or judgment of the operator, but when once the full yellows are reached, the colour progresses towards the strongest scarlets through orange and reds of lesser intensity. A double border arranged in some such way when seen from either end, or a single border that has lawn or other space in front from which it can be viewed, will in either case show the advantage of the definite colour-plan and the unity of intention. It will be a satisfying picture, with a gradual ascent to a culminating glory, instead of a jumbled incoherence of spottiness, with perhaps here and there a pretty incident, but no repose or pictorial effect.





CHAPTER VI

HEDGE-FORMING AND CLIMBING ANNUALS

OF these the first that come to mind are the Sweet Peas, and for a whole continuous hedge nothing can be more delightful. The range of colouring is now so extensive, and the variety of form and marking so distinct, that one may walk along a considerable length of hedge without coming to an end of the pleasure and interest. There is no other climbing plant of which so much may be said, though some others may be satisfactorily used as hedges. The next best, if a whole hedge of one kind of plant is desired, would be of the varieties of Convolvulus major, more properly called Ipomæa purpurea. After this there are the many colourings of the tall Nasturtium, Tropæolum majus. Mina lobata, a near relation of the *Ipomæas*, is more tender, and its vigorous growth makes it more suitable for the temporary covering of a garden arch, for which the Japanese Hop is also excellent.

There are several tender annuals of much beauty that require a sunny wall or at least

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Hedge-forming and Climbing Annuals

some warm, sheltered position. They are not necessarily annuals at all, but, being natives of tropical countries, have to be treated as half-hardy annuals with us. Of these the boldest in growth is *Cobæa scandens*, a strikingly handsome plant, although the flowers are of a rather dull purple colour. *Maurandya Barclayana* is a plant of refined beauty, with delicate foliage and numerous Foxglove-shaped flowers of a good purple colour. *Ipomæa rubrocærulea* is the lovely blue Convolvulus known as Heavenly Blue. *Eccremocarpus scaber* has loose racemes of orange and scarlet bloom. It is a vigorous grower, and makes a fine show until its beauty is destroyed by frost.

Many of the climbing plants suited for growing as hedges can be used with advantage in other ways. Sweet Peas when in flower borders are generally placed at the back, supported by upright pea-sticks, but they can also be brought forward and kept lower by fixing the supporting spray in a slanting position at a very acute angle with the ground line, so allowing the Peas to be trained forward. Such a way of guiding the Peas makes a pleasant method of covering a sloping bank, and by some such contrivance many a waste or unsightly place about a garden may be made enjoyable. The pale yellow Canary Creeper may be happily treated in the same way. In

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FONGLOU'ES ADJOINING WOODLAND.



Gourds for Pergolas

many quite small gardens, where the space devoted to flowers requires a screen from vegetable ground, it may be well to remember that a hedge of Scarlet Runner Beans, trained in the usual way, is beautiful as well as useful.

The many handsome kinds of Gourd are not recommended as hedge plants, because the great weight of the fruits of the largest kinds requires a very strong support; but they are admirable plants for a firmly con-structed pergola. It should be in a place as much sheltered as possible, because the large, tender leaves are likely to be damaged, and the whole plant torn about, by rough weather. The handsomest is the French Potiron Rouge d'Estampes; the immense, flattish-shaped fruits are of a bright, deep orange colour, and may weigh anything up to 120 lbs. Many of the smaller-growing sorts are distinctly ornamental, and should be grown where space can be found. All the kinds are strong feeders and should be generously treated.

CHAPTER VII

ANNUALS IN THE ROCK GARDEN

At first sight one hardly connects annual plants with the rock garden, and yet there are some that are more distinctly in place there than elsewhere, and others that are excellent for use in any empty spaces that may occur. And it is well to remember that the greater number of alpine and other rock plants bloom only in the early summer, so that any spring-sown annuals for which a place can be found will materially help to prolong the rock gardens' time of bloom.

Grammanthes gentianoides is a little plant not often seen; it is not more than 3 inches high, and has flowers of a remarkably brilliant deep orange colour. It is excellent for a sunny place in the rock garden, as is also Sedum cæruleum, the little blue annual Stonecrop. Portulaca is good for the same use. All these should be in full sun. Alyssum maritimum and the varieties of Iberis umbellata are also exactly in place. Thunbergia alata, usually grown as a greenhouse climber, is quite at home in the sunny rock garden as a trailing plant. San-

Trailing Annuals

vitalia procumbens, like a tiny trailing Sunflower, is nowhere so well in place as on a sunny rock shelf. Another trailing annual is the coppery Anagallis Wellsiana, and the blue A. Webbiana should not be neglected. Several of the annual Linarias are better suited for the rock garden than elsewhere; the best are L. reticulata aurea purpurea, L. alpina, and the varieties of L. maroccana. The tiny Ionopsidium acaule is beautiful in cool nooks and bare places where it will not suffer from drought. Silene pendula and Saponaria calabrica are both capital rock Others that can well be used are plants. Dianthus sinensis and the dwarf forms of Phlox Drummondi, also Phacelia campanularia, whose pure blue is always welcome. The prostrate habit of the Ice-plant also makes it suitable, and the deep green of its glistening crystalbeaded foliage assimilates well with the persistent greenery of the permanent plants.

A whole large space of rock garden may be made beautiful in late summer by a June planting of one of the dwarf bedding Lobelias in every empty space or chink that is available; in a large rock garden such a filling with one good plant at a time would be found restful and satisfying, and would help to correct the slightly disquieting impression so often received in such a place, from too many objects of interest being presented within one range of vision.

CHAPTER VIII

SWEET-SCENTED ANNUALS

EXCEPT among the members of one large family of plants, the Cruciferæ, it is not usual to find much fragrance among annuals, but in this family they are frequent. Wallflowers, Stocks, and Rockets are among the sweetest of our garden plants; and though not actually included in the same botanical Order, but following it immediately, there is Mignonette, the sweetest of the sweet, and of all garden plants the one that gives off its scent the most freely in hot sunshine. A bed of Wallflowers also gives off its delicious scent when the sun is shining, but others of the family reserve their best sweetness for the evening hours. Such are the Stocks and the Rockets, and especially that little plant, Matthiola bicornis (the Nightscented Stock), which should be freely sown in any place near garden paths. The dullcoloured, drooping flowers and insignificant leaves are scarcely noticeable in the daytime, when the whole plant seems to be in a state



A BORDER OF STOCKS.



Flowers of Evening Perfume

of relaxation, as if inanimate or asleep. But as soon as the light fails the limp plant stiffens, the leaves become firm, the flowers rise up and expand; the whole plant acquires a kind of modest beauty, and the bloom pours forth its delicious scent, which is wafted many yards away.

The White Tobacco (Nicotiana affinis) is another flower of evening perfume. The bloom is partly closed in the daytime and gives no scent, though the whole plant has a rather rank. heavy smell, of an unpleasant quality. But when twilight comes the white flowers open and the strong sweet scent, of a luscious, tropical quality, is freely given off. Other notably night-scented plants are Enothera Lamarckiana (the Evening Primrose) and the tall Mullein (Verbascum phlomoides); the latter also faintly scented in cloudy weather as well as in the evening. Heliotrope and Verbena are not true annuals, though they are included in this book because they are often grown from seed for the summer only. Both are sweetest in sunshine. Snapdragons of all sizes have a good, sweet smell, and so have the large forms of Scabious and the Sweet Sultans; the scent of the last has some affinity with that mysterious, elusive, and delicious sweetness of the dying wild strawberry leaves.

The yellow annual Lupin has a sweet smell

Sweet-scented Annuals

allied to that of the Bean-blossom, but the best scent of all the Pea and Bean tribe is that of Sweet Peas. It is a curious and extremely regrettable fact that so many of the fine Sweet Peas of the newer kinds are almost scentless. Forty years ago the old hedge of mixed Sweet Peas was the sweetest thing in the garden. They were then in only four varieties of colour, the purple in two shades, the pink and white, the splashed grey and the white. It was many years before a brighter red appeared with pink standards and rosy red wings. But all were deliciously scented.

Alyssum maritimum has a general pleasant scent, though it is nothing remarkable. Pansies have a delightful small smell, of a different and much better quality than that given off by their foliage masses in the later summer. The French and African Marigolds give off a strong smell from the whole plant, when they are touched or bruised, that to some people is disagreeable. One of the family, *Tagetes lucida*, has a pleasant scent, like that of Anise. The Orange Pot Marigold (*Calendula*), also, can hardly be called sweet, though the strong smell is of a wholesome quality. Petunia is another plant with a heavy, not very pleasant smell.



VERBASCUM PHLOMOIDES.

CHAPTER IX

ANNUALS AND BIENNIALS FOR USE AS CUT FLOWERS

Antirrhinum. Arctotis. Argemone. Cacalia. Calendula. Canterbury Bell. China Aster. Clarkia. Cornflower. Chrysanthemum. Coreopsis. Cosmos. Eschscholzia. Gaillardia. Godetia. Gypsophila. Helianthus. Heliotrope. Jacobæa. Lavatera. Leptosyne.

Linaria. Lupin. Marigold. Mignonette. Nasturtium. Nicotiana. Nigella. Pansy. Poppy. Pentstemon. Phacelia. Polygonum. Salpiglossis. Scabiosa. Stock. Sweet Pea. Sweet Sultan. Verbena. Wallflower. Zinnia.

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A BED OF VICTORIA ASTERS. Good annuals for cutting.

PART II







ALPHABETICAL LIST, WITH DESCRIP-TION AND CULTURE, OF THE BEST ANNUALS AND BIENNIALS

N.B.—In the following pages h.a. denotes hardy annual; h.h.a., half-hardy annual; g.a., greenhouse annual; biennial is written in full.

AGERATUM MEXICANUM; h.h.a.; 18 inches.— Excellent bright, light purple-flowered plants for late summer, with dwarf varieties good for front edges of borders; of these Swanley Blue is one of the best. They can be sown out of doors in a seed bed in the southern counties and transplanted from this, but are generally raised in slight heat.

ALONSOA WARSCEWICZII; h.h.a.; 18 inches and 2 feet.—This is the best of the several kinds of *Alonsoa*; there are tall and short varieties, both equally good. It forms a cloud of the pretty bloom of a soft orange-scarlet colour and can be planted fairly close together—about 6 inches apart. Cottagers sometimes grow it with great success as a pot plant, a single plant forming quite a large specimen.

ALTHÆA ROSEA is the grand Hollyhock so well

Hollyhocks are Gross Feeders

known in gardens; both the single and double are among the very finest border plants. The variety, A. ficifolia, is rather slimmer and more graceful in growth; of this the white and pale yellow forms are the best. Hollyhocks are gross feeders, thriving with any kind of strong manure. It should be dug in deep down for the roots to find gradually; when coming into flower they should also have frequent applications of liquid manure. They are extremely liable to the attack of the mallow fungus Puccinia malvacearum. When the pest appears they should be frequently sprayed with a full pinkcoloured solution of permanganate of potash or one of the many ready-made fungicides. In strong loamy or chalky soils they are generally immune. Hollyhocks are really perennials, but they are commonly grown as biennials.

ALYSSUM MARITIMUM (*Sweet Alyssum*), also called KÖNIGA MARITIMA; h.a.; 6 inches.— Flowers white. A capital plant for front edges of borders or banks or rock work, sown in April where it is to bloom. Sweet-scented and attractive to bees. It is also a good carpeter of the soil.

AMARANTUS.—Half-hardy annuals, from I to 3 feet high, with crimson or dark blackishred foliage. The well-known Love-lies-bleeding is A. caudatus. A. sanguineus and A. salicifolius are among the pleasantest in colouring;



ANTIRRHINUM INTERMEDIATE IN A PARTERRE.

the greater number of kinds are of a rank magenta, either of flower or leaf, that is so displeasing to those who are sensitive to good colouring.

ANAGALLIS INDICA (Blue Pimpernel); h.a.; I foot. The only species that is a hardy annual, though others, really perennial, are treated as half-hardy annuals. Of these the best are A. linifolia, commonly called cærulea, and A. Monelli Philipsi; the latter very dwarf and good for the rock garden. All those named are of a good blue colour and like warm banks in full sun.

ANCHUSA ITALICA; 3 to 5 feet.—A perennial, but best treated as a biennial. The finest are the Dropmore varieties; the one named Opal is of a very beautiful, rather pale, but extremely pure blue colour. They flower throughout June and July. To keep this fine plant true it must be propagated by root cuttings made in August.

ANTIRRHINUM (Snapdragon).—A short-lived perennial in some soils and best treated as an annual. No plant has been more truly improved for garden use. It is now grown in four distinct sizes, and every year more new and beautiful varieties are being produced. For ordinary border use the tall and intermediate heights are the most generally useful. The dwarfs do well on rock work or where a short edging is required. In the south and west they can be grown as Importations from South Africa, Mexico,

biennials, but for general use it is best to sow in early February in slight heat, to prick off into shallow boxes, and plant out in May. They are some of the best of things for dry walls, when they can be planted small or sown in the joints.

ARCTOTIS GRANDIS; h.h.a.; 18 inches.—One of the prettiest of the newer annuals, with white Daisy flowers on long stalks. Though a native of South Africa, it likes a place where it is cool and rather damp at the root. The large flowers and long stalks make it a useful plant for cutting.

ARGEMONE (Mexican Poppy); h.a.—A. grandiflora is a handsome plant with white Poppy-like flowers and prickly foliage much like a Sea-Holly; nearly 3 feet high. Being a native of Mexico it enjoys a warm soil and hottest exposure. A. mexicana is a plant of much the same habit and appearance, but smaller and with pale yellow bloom.

ASPERULA AZUREA SETOSA (*Blue Woodruff*); h.a.; 9 inches.—A charming little plant with many heads of grey-blue bloom; it does well in poor soil and does not object to a little shade; it is of much use for filling bare spaces anywhere in the rock garden.

ASTER (CHINA). See CALLISTEPHUS.

BALSAM. See IMPATIENS.

BARTONIA; h.a. or h.h.a.; 18 inches.—Bartonia aurea is best known by this name, though it is more properly Mentzelia Lindleyi. It can



ANTIRRHINUMS GROWING IN A DRY WALL.

be sown in the open in autumn or in April, but is best raised in slight heat and treated as a halfhardy annual. The flowers are yellow.

BELLIS PERENNIS fl. pl. (Double Daisy); 6 inches. — The large Double Daisies have been much improved of late. They are in three distinct colourings of white, crimson, and pink. They are more or less perennial, but as they are apt to deteriorate are best treated as biennials, sown outdoors in June and transplanted in autumn. Old plants can be divided, but it is best to sow afresh with seed from a good house.

BORAGO OFFICINALIS (*Borage*); h.a.—This is usually grown among the pot herbs, but is well worth a place in the flower garden for the sake of the pure blue bloom. It is about 2 feet high, and should be sown in spring where it is to remain.

BRACHYCOME IBERIDIFOLIA (Swan River Daisy); h.h.a.; 12 inches.—A charming Australian plant varying in the colour of the bloom, the best being a pretty soft blue. Seedsmen should be asked for a selected strain of good blue colouring. Sow in spring in slight heat and put out in May. This is the surest way of culture, though it may be sown in the open in April.

BROWALLIA SPECIOSA MAJOR; g.a.—A good annual for greenhouse pot culture, under a foot high, with rich purple-blue flowers. Sow in

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March in a good compost and keep near the light.

CACALIA COCCINIA; h.a.—A bright, pretty plant with red flowers, about a foot high; not so much grown as it deserves. Sow in place in spring or autumn where the plants are to flower.

CALENDULA OFFICINALIS (*Pot Marigold*); h.a.—One of the brightest and best of our annual plants, about 18 inches high. There are several named varieties, but by far the best is the double, deep orange-coloured form called Orange King. It may be sown where it is to bloom either in autumn or spring. It does well in poor or sandy soil.

(China Aster): Callistephus hortensis h.h.a. - Among the large numbers offered in seed lists it may appear, at first sight, difficult to make a choice, but for general garden use the kinds that may be most confidently recommended are the varieties of the Victoria, Comet, and Ostrich Plume groups, and of these, those of the so-called blue and the white colourings. The " blues " are various shades of light and dark purple, all of good quality. Mammoth, formerly known as Vick's White, is a capital late kind of large bloom and tall habit, excellent for cutting. The type plant C. hortensis, purple with yellow centre, is also good for cutting and for garden China Asters are sown in March in slight 1150 heat, pricked off in boxes, and planted out at





the end of May in well-prepared beds. They require rich soil that has been deeply dug.

CAMPANULA MACROSTYLA; h.a. — Though this is not among the more commonly grown annuals it is handsome and interesting. The purple flowers are distinctly veined and are remarkable for the very long protruding style. It does well sown in autumn, and is under 2 feet high.

CAMPANULA MEDIUM (*Canterbury Bell*).—One of the best of summer flowers, 2 to 3 feet high; coloured purple in several shades, pink and white. There are double varieties, but in these the pretty bell is confused and disfigured by the tight, crumpled mass inside; the single and the calycanthema (Cup and Saucer) forms are the best. Sow in a warm place in the open about the second week of May; prick out, for preference in slight shade, and keep watered, and put out where they are to flower in early autumn. They are useful in pots, and may be potted from the open ground even when they are showing bloom.

CAMPANULA PYRAMIDALIS (Chimney Bellflower). — A short-lived perennial, but usually treated as a biennial. It forms great columns of bloom 5 to 7 feet high in late summer and autumn. It may be grown out of doors, but is finest when well cultivated in pots. Sow in June in the open. It is a grand plant for the conservatory. Both the type-coloured purple and the white should be grown.

CELOSIA PLUMOSA (The Feathered, not the Crested Cockscomb); g.a.-Celosia is most commonly represented in gardens by the magenta Cockscomb of greenhouses, a plant unbeautiful both of form and colour. The feathered kinds, in which the flower has the form of an upright plume, when the harsh crimson colouring to which they naturally incline can be avoided. are handsome plants both for garden and greenhouse, in colourings of red and yellow. As they begin to show bloom in quite a small state the bad ones can be picked out. But they need careful growing. Sow towards the end of March, keep close to the light, and as they increase in size give successive shifts. Push on in heat, and harden off carefully before putting out. As rapid growth is required, they should be repotted in rich soil.

CENTAUREA CYANUS (*Cornflower*); h.a.; 2 to 3 feet.—A native plant of improved form, pure blue, about 3 feet high. Best autumn sown outdoors, when, if given space, a single plant will branch a yard wide. The dwarfer forms are not so good as the tall. There are purple and white varieties, but the strong, pure blue and a rather lighter blue are the best.

CENTAUREA MOSCHATA (*Purple Sweet Sultan*), C. MARGARITA (*White*), and C. SUAVEOLENS



WHITE SWEET SULTAN.



The Best Wallflowers

(Yellow Sweet Sultan; h.a.; 18 inches to 2 feet.— These are all charming and desirable sweetscented plants, best autumn sown in the open, but can also be sown in April. They prefer a loamy or calcareous soil.

CHEIRANTHUS CHEIRI (Wallflower); hardy biennial; 9 inches to 2 feet.-Wallflowers are so well known that they need not be described. There are many garden varieties, but among the best are some good strain of Blood-red and the shorter kind named Vulcan, of intense redbrown colour and bushy habit. The old Purple should not be neglected; it is better in some combinations of plants than the redder variety obtained from it, named Ruby Gem ; Fire King is a gorgeous colour and Yellow Phœnix a fine vellow. Primrose Dame is a pretty pale yellow; other colourings of the single Wallflowers will be found in trade lists. The early Paris kinds are valuable. The double German kinds, especially those of full and pale yellow colourings, are extremely desirable in the spring garden; their massive spikes are of fine appearance and they last longer than any other spring flower. Wallflowers should be sown out of doors in May, preferably in rather poor soil trodden firm; this keeps the plants compact and of strong constitution. They are best put out in any damp weather in July if the place for spring flowers is dedicated to them only, but if they have to follow bedding plants they must wait till October or November. In any case they must not be allowed to grow large and rank before they are put in the places where they are to bloom.

CHENOPODIUM ATRIPLICIS PURPURASCENS OF ATRIPLEX HORTENSIS.—A red-leaved plant, allied to Beet, useful for growing in borders, where colour arrangements are considered, among any bold plants with red flowers, such as Dahlias and Hollyhocks. If let alone it will grow seven or more feet high, but it is much improved in habit by frequent pinchings to make it branch and assume a bushy form. It must be sown in place as it will not transplant.

CHRYSANTHEMUM; h.a. — These annual Daisies, 2 to 3 feet high, are not only fine in garden decoration, but are among the most satisfactory of annuals for cutting, lasting long in water. The North African C. carinatum, garden var. Morning Star, a beautiful pale yellow flower, is perhaps the best of all. C. carinatum Burridgeanum is handsomely banded with a red-brown ring near the centre, on a nearly white ground. C. inodorum plenum is a much dwarfer plant with finely divided dark green foliage and a rather spreading habit. The double pure white flowers of the variety Bridal Robe are good both in the garden and for cutting.

CLARKIA ELEGANS and C. PULCHELLA ; h.a. ;



COLLINSIA BICOLOR.



2 feet.—Well-known, graceful plants bearing clouds of pink bloom; seed-growers have obtained desirable salmon-coloured varieties, but a good form of the original pink is the most refined in colour. All the Clarkias are good for cutting. They should be sown in spring where they are to flower.

COBÆA SCANDENS.—This very useful greenhouse climber, though in fact a perennial, is commonly treated as a biennial. In one season it will cover a large space. The large, wide, funnel- or cup-shaped flowers are of a rather dull purple colour, but are strikingly handsome. It should be grown against a south wall or a trellis in a warm aspect. Sow in July; keep in pots in frame or cool greenhouse through the winter and put out at bedding time.

COLLINSIA BICOLOR; h.a.; I foot.—A charming old garden annual with lilac and white flowers in whorls.

COLLOMIA COCCINIA; h.a.; I foot.—Soft scarlet flowers in heads much like Bouvardias. May be trusted to sow itself as it nearly always reappears where it has once been grown.

CONVOLVULUS MAJOR is more properly IPOMÆA PURPURASCENS, but is commonly known by the first name. A well-known climber, 8 to 10 feet ; purple and pink ; there is also a white variety. It can be sown in place, but is rather better sown early in heat and planted out in May. Good for trellis or for covering any rough support.

CONVOLVULUS MINOR, properly C. TRICOLOR. —A lovely plant about I foot high; flowers blue, shading to a white throat, the blue accentuated by yellow stripes passing up from the centre.

COREOPSIS TINCTORIA.—One of the brightest of the taller hardy annuals, about 3 feet high, with a profusion of Daisy-shaped bloom of a deep orange colour with rich mahogany-brown centre. A variety called *atrosanguineum* is of the mahogany colour all over. *C. Drummondi*, rather shorter growing, is a rich yellow. There are dwarf varieties of *C. tinctoria*; the one named Crimson King is less than a foot high and has rich red-brown colouring. Sow April to June or in September for early blooming.

CORNFLOWER. See CENTAUREA.

COSMOS BIPINNATUS; h.h.a.; 6 feet.—Flowers in September and October. The type colour is a washy purplish-pink, but there is a good white variety which is preferable. A good companion to the late Michaelmas Daisies. There is a useful dwarf kind, flowering from July onwards; of this the white is also the best. When the plants are half grown they may be made more bushy by being cut back, when they make fresh side growth immediately.

CREPIS BARBATA RUBRA (Hawkweed); h.a.;



EORDERS OF DELPHINIUMS AND FOXGLOVES IN A KITCHEN GARDEN.



The Best Delphiniums

12 inches.—Pretty rosy Daisy flowers with a good white variety. They prefer a limy soil.

CUCURBITA (Gourd); h.h.a. --- The rapid growth and great variety of these ornamental fruiting plants make them an object of great interest in the late summer and autumn. Thev can be grown on any manure heap or bank or mound of waste material, but are best seen when they are trained over some rough structure of the arbour or pergola kind. The fruits are of all sizes, from that of a cricket ball to the great Pumpkin weighing up to 150 lbs., and they are extremely varied in shape. Seeds are sown in heat, one in a small pot, in March; the seedlings are potted on, and are put in place towards the end of May, and protected with a hand-light till all danger of frost is over.

DATURA; h.h.a. — Three American subtropical species are of value, viz. *D. ceratocaula*, with white flowers, between 2 and 3 feet high; *D. cornucopiæ*, also white or purple, and rather shorter in growth; and *D. meteloides*. The last is the largest; some 4 feet high.

DELPHINIUM (Larkspur); h.a.; 2 to 4 feet.— The best of these are the tall Rocket Larkspurs (D. Ajacis); free-growing branching plants, with blue, purple, and pink flowers. The Stockflowered kind called Rosy Scarlet is a grand garden flower. D. consolida is also in several good colourings.

Closely examine Diascia Barberæ

DIANTHUS (*Indian Pink*); h.h.a.; 9 inches.— These annual kinds are garden varieties of *D. sinensis*. Some have the edges of the petals handsomely fringed, and some are double. They are in many shades of pink, red, crimson, and white. For a choice a good trade list should be consulted, as the names vary in different catalogues. They should be sown in slight heat in February, and are best in a loamy or calcareous soil.

DIANTHUS BARBATUS (Sweet William); biennial. —One of the most brilliant of garden plants, in a whole series of splendid red colourings; the crimson inclining to scarlet has a wonderful richness of tone and intensity of colour. Of late years colourings of pure scarlet and salmon pink have added greatly to their value. Other strains are handsomely laced and belted with dark colour on a white or pink ground. They should be sown out of doors in April, pricked off when large enough, and transplanted in autumn. If the soil is not calcareous an addition of lime is beneficial.

DIASCIA BARBERÆ; h.h.a.; 9 inches.—A plant not much grown, but a little gem of curious and beautiful construction. It has pinkish hooded flowers with a pair of curved spurs at the back; a flower that it is a joy to examine closely. Sow in February or early March in slight heat, and put out in May, reserving some in pots for the cool greenhouse.

A Handsome South African Daisy

DIDISCUS CŒRULEUS; h.h.a.; 18 inches.— A valuable annual from the good colouring of its bluish-lavender flowers that are carried in umbel form. It should have the hottest exposure in good, light soil.

DIGITALIS PURPUREA (*Foxglove*); biennial; 5 to 7 feet.—Garden varieties of the wild Foxglove. Those sold as *gloxiniæflora* have widemouthed purple flowers of several shades, handsomely spotted; but the most beautiful is the pure white. They are best sown in May where they are to grow, and prefer a half-shady place, though they can also be sown in late spring and transplanted in autumn.

DIMORPHOTHECA AURANTIACA; h.h.a. — A handsome South African Daisy with soft orangecoloured bloom, about a foot high. It likes the warmest exposure, as the flowers do not open in shade. One of the best of the more recently introduced annuals. There are varieties of varying colour, but the type is the best. Sow in April in a cold frame. The older D. pluvialis, a hardy annual, also from South Africa, should be more grown; it has white flowers, with the backs of the petals of a purplish-grey, of a pretty and uncommon colouring resembling diluted ink. It is commonly sold under the name Calendula bluvialis.

ECCREMOCARPUS SCABER.—A perennial of

climbing habit. A handsome fast-growing plant with scarlet and orange tubular flowers. Treat in the usual way for half-hardy annuals, or sow in late summer, and winter the plants in a greenhouse, when earlier growth and bloom will be secured.

ERYNGIUM GIGANTEUM (Silver Thistle); hardy biennial; 3 feet.—A very beautiful Sea Holly of splendid spiny structure and silvery metallic surface. It can be grown in a seedbed and be transplanted, but is finest if sown where it is to remain. Seed should be sown as soon as it is ripe.

ERYSIMUM PEROFFSKIANUM; h.a. or as biennial.—A well-known plant with brilliant orange bloom; 18 inches to 2 feet high. The place of the older plant has of late been taken by an improved kind of uncertain origin and doubtful name, but known in seed lists as an improved *Cheiranthus Allionii*. It is best treated as a biennial, sown in July where it is to bloom.

ESCHSCHOLZIA (*Californian Poppy*); h.a.— No annual is better for a warm bank or any place with full sunny exposure. There are a number of varieties, all beautiful, ranging from white through cream colour and pale yellow to deepest orange and crimson; some with double flowers. Varieties named Mandarin and Mikado are among the best.

EUTOCA VISCIDA; h.a.; 18 inches to 2 feet.—



ERYNGIUM GIGANTEUM. Steel white.



Now classed with *Phacelia*, but generally known in seed lists as *Eutoca*. Flowers deep blue, over an inch wide; the white centre is curiously decorated with a tiny chintz-like purple pattern well worth close examination. But the plant is unpleasant to handle, a sticky exudation staining the hands.

FEVERFEW. See PYRETHRUM.

GAILLARDIA PICTA; 12 to 18 inches.— Excellent plants of red and yellow colouring; they can be grown as half-hardy annuals, but better still as biennials; sowing out of doors at midsummer and transplanting in September. They do best in a warm exposure.

GILIA TRICOLOR; h.a.—Pretty plants about I foot high, with white and purple flowers, but not of the first importance. The newer G. coronopifolia is a remarkable and desirable plant, but must be treated as a biennial; sown in June, and wintered in separate pots in the greenhouse. The flowers are scarlet, and the plant grows to a height of 3 feet.

GLAUCIUM LUTEUM (Horned Poppy).—There are some garden varieties of this fine native Poppywort, but it is doubtful if any exceed it in beauty. It is grown as a biennial; the seeds sown in June where they are to flower the next summer. It will thrive in poor soil, often naturally in bare shingle, but must have full exposure to sunlight. Gypsophila's " Clouds of Flowers"

GODETIA; h.a.; 18 inches to 2 feet.—Showy annuals, nearly allied to *Enothera*; in fact, the most recent botanical classification includes *Godetia* in *Enothera*. The colours range from white, through pink and rose, to crimson. Seed lists give a large selection of varieties, but one of the best is Double Rose, which is not only beautiful in a well-grown mass, but is valuable and long lasting as a cut flower.

GOLDEN FEATHER. See PYRETHRUM.

GRAMMANTHES GENTIANOIDES; h.h.a.; 3 inches.—A charming little plant, not often seen, of a brilliant, deep orange colouring, suitable for a place in rock work or wall-top or anywhere in full sun near the eye. It is best sown in pots in a limy compost in early March, in slight heat, and planted out at the end of May without disturbance of the potful.

GYPSOPHILA ELEGANS; h.a.; 12 inches.—A charming little dainty plant with clouds of small flowers. The quite white form is the best, the type plant having pinkish bloom. *G. muralis*, with purplish flowers and trailing habit, is good for walls and rockeries.

HELIANTHUS ANNUUS; h.a.—The common tall annual Sunflower is well known, but not very easy to use in careful gardening, the whole appearance being coarse and out of scale with most garden flowers. The pale sulphur or primrose variety is more refined



GODETIA LAVENDER. A good variety for cutting.

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The Best Sunflowers

and not so tall. It is a good plan, when these Sunflowers are used in mixed borders, to cut out all the middle blooms; the plant then branches into a number of smaller blooming points. The new, so-called Red Sunflower has a broad band of red-brown colouring near the disc, giving the flower the appearance of an immense *Gaillardia*. A smaller Sunflower called Primrose or Sulphur is a useful plant, and there are still shorter kinds called Dwarf Miniature. They may be sown in the open or treated as half-hardy; sowing in slight heat in March.

HELIOTROPE.—Usually propagated by cuttings, but if a good strain of seed is obtained, plants grown as half-hardy annuals are very vigorous.

HESPERIS MATRONALIS (*Rocket*); hardy biennial.—The single form is a free-growing plant, flowering from the middle of May to the end of June. It gives off a sweet scent in the evening, and looks best in a half-shady place, such as the edge of woodland or the beginning of a wood walk. The double kinds, of which the pure white is the best, should be treated as biennials, dividing clumps after they have bloomed.

Hollyhock. See Althæa. Honesty. See Lunaria.

HUMULUS JAPONICUS (Japanese Hop); h.a.-

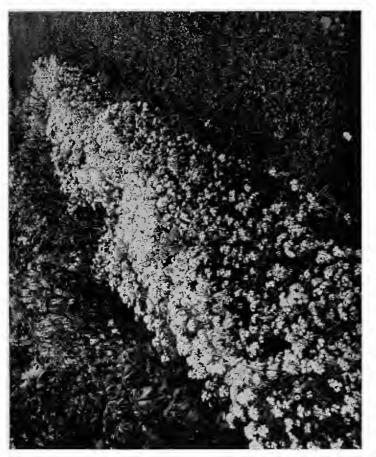
Balsams for Dull Places

A useful plant where a quick-growing climber is required.

IBERIS CORONARIA (*Candytuft*); h.a.—A fine plant, I foot to 18 inches high, with massive spikes of purest white bloom. It is much best autumn sown. The varieties of *I. umbellata*, about 9 inches high, range through white and purplish colourings, and are capital edging and carpeting plants.

IMPATIENS BALSAMINA (Garden Balsam); h.h.a.; 18 inches.—Is grown in pots for the greenhouse, or bedded out in good soil in a sunny place. It varies in colour from white to deep red.

IMPATIENS GLANDULIFERA (Common Balsam); h.a.; 8 feet. - Flowers white to pink. A very handsome plant of rapid growth, useful in the back of borders, or among shrubs or at the edge of woodland. It is one of the few annual plants that do well in the close shade of buildings, and might be used with advantage in many places where there is a dull backvard or enclosed court that receives little or no sunlight. A fine white-flowered Balsam has been sold of late as I. Roylei; the accuracy of the name is doubtful, but the plant is desirapparently a pure white form of I. able ; glandulifera. The seed capsules explode with some force, throwing the seeds many yards away. They germinate only too freely, but it





is a soft plant, easy to pull up in spring when the juicy mass can go with advantage into a garden trench as green manure.

IONOPSIDIUM ACAULE (*Violet Cress*); h.a.— A tiny plant only an inch or two high; white, faintly tinged lilac; good for places in cool rock work near the eye, or the joints of pavements.

IPOMÆA PURPUREA (Morning Glory); h.a.— The best known of these beautiful climbers is commonly called Convolvulus major; it is in colourings of purplish-blue, red, and white. I. rubro-cærulea (Heavenly Blue), is a tender plant, really a perennial, but grown as a halfhardy annual and planted out against a warm wall, though not always with success; but a good greenhouse plant where it can be trained up the rafters. The flowers are of a most pure and lovely blue.

JACOBÆA ELEGANS; h.h.a.—This is properly a *Senecio*, but is more commonly catalogued as *Jacobæa*. The white double variety is the best; the red ones being of a rank magenta colour. It is a neat plant about 15 inches high, the flowers showing up well upon the dark, rather succulent foliage.

KAULFUSSIA AMELLOIDES; h.a.—A pretty plant about 9 inches high; the colour of the blue Daisy flowers being refined by the purplish disc. KOCHIA TRICHOPHILA (Summer Cypress).—A plant of neat columnar growth, of no flower value, but bright in autumn; 2 to 3 feet high. It is sown in slight heat early in March, potted singly, hardened off, and planted out in May.

LARKSPUR. See DELPHINIUM.

LATHYRUS ODORATUS (Sweet Pea); h.a.-Of this delightful climbing plant there are now innumerable varieties; every year some fresh favourites displacing older kinds; so that, for a choice, a descriptive seed list of the year should be consulted. They require thoroughly good cultivation by deep digging and liberal manuring. It is difficult to grow them well in poor or sandy soils, but they thrive in rich loam. For late summer bloom they are sown out of doors in April, but are often sown in pots in February, kept in a cold frame, and planted out in the end of March after being carefully hardened. Sweet Peas are usually trained to upright sticks of spray, but they also make a capital effect trailing over a sloping bank on rough branches, so arranged as to support the peas only a little way above ground.

Autumn sowing: its advantages.—Formerly it was the invariable rule to sow Sweet Pea seeds in early spring: the time regulated in large degree by the weather conditions prevailing at the moment. In addition to the not infrequent delays and lateness of flowering

Sweet Peas—Autumn Sowing

thereby caused, the coldness and wetness of the soil jointly were responsible for not a little loss of seeds and still more perhaps of tardy and often enfeebled vegetation with all its attendant disadvantages. To-day all these are swept aside by the simple expedient of sowing in autumn—it may be in the open ground, in pots, or in boxes, just as soils, locality, and experience dictate or prove to be the best. Primarily, the advantages of autumn sowing are that the plants are enabled to obtain a greater hold upon the soil, and, endowed with increased vigour and hardihood by reason of slow growth during the winter and the greater length of time between seedsowing and flowering than is possible by any other method, are enabled to give of their best when the flowering time arrives. The greatest gain, however, is the earlier flowering of the plants, and instead of having to wait till July as of yore, Sweet Peas are made possible from the third week of May.

Autumn sowing in the open.—Probably but comparatively few cultivators do this to any extent, though, where soil and local conditions admit, there is little doubt that it may be turned to a good and profitable account. Better suited to the commercial seed-grower and the grower of flowers for market than to the amateur in general, the latter need not be deterred from practising it, given favourable conditions. The essentials in the case are deep, well-cultivated, and, above all, perfectly drained land. Cold, tenacious clay soils are unsuitable. Medium to light loamy soils are good. In all such the root-fibres of the Sweet Pea ramify freely. Treated with cow manure low placed in the rows, with a free addition of lime, or light dressing of superphosphate of lime incorporated with the soil, good results would be ensured. Sowings should be made late in September or early October while the land is still warm. Sow thinly in foot-wide, somewhat sunken or depressed trenches which admit of earthing up the plants later on. Choice varieties should not be treated in this way, but reserved for sowing in.

Pots or boxes under glass, both of which methods are largely adopted to-day with the best possible results. Advantages of both these systems are that risks and loss are reduced to a minimum and the early start given to the plants—matters of supreme importance both. For this work a frame or greenhouse is essential, the former the best from many points of view. The Sweet Pea *is hardy*, and the uniformly cool (or cold) conditions of the frame suit its requirements exactly. In it a steady, hardy growth the precursor of subsequent health and vigour are ensured. Throughout, frame cultivation



SWEET PEA ROYAL PURPLE. One of the newer varieties.

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or Boxes under Glass

promotes sturdiness, than which nothing is more to be desired. In the greenhouse—unless specially designed structures obtain—this uniform coolness is rarely forthcoming. Drier conditions often prevail, and the plants farther removed from the glass not infrequently become drawn and to some extent weakened. In expert hands this would not happen; out of them it often does.

Sowing in pots.-To-day the majority of Sweet Pea cultivators-particularly those who grow the flowers exclusively for market purposes—sow the seeds in pots. Usually 4-inch pots are used, four seeds being placed in each, a system which admits of transplanting with a minimum of root disturbance when the right time arrives. The soil used is good loam with a little sand intermixed. Fill the pots with soil to within three-quarters of an inch of the rim; make all moderately firm, and water thoroughly before sowing the seeds. Allow twelve hours to elapse before sowing the seeds, when all excess of moisture will have passed away. Covering the seeds with half an inch of fine soil will allow a slight recess for affording water in the future. Give a light watering after covering in the seeds to settle the soil. Watering the soil in advance of seed-sowing has been found to promote a more uniform germination of the seeds.

Supporting Young Sweet Peas

Sowing in boxes differs in nowise in principle from that of sowing in pots, hence the same directions apply. Assuming that transplanting will be later resorted to, the seeds may be arranged $1\frac{1}{2}$ inches apart each way. If not, an increased distance should be allowed to each at the time of sowing. It were better, however, to practise either transplanting to 3 inches asunder in fresh soil or to pot the plants singly into 4-inch pots. In each case the latter part of September or early October will be best for sowing the seeds, and if the frame be darkened with mats, little watering will be needed till the seedlings appear. When 3 inches of growth has been made, the tip of the seedling plant should be pinched out. This will promote a more bushy-habited plant and incidentally a stronger one, experience proving that these breaks are stronger than the original main shoot. Quite soon, too, the young plants will require support, an important item not to be overlooked. To the advantages of sowing in pots and boxes already named should be added the important one of dispensing entirely with overcrowding, the planter being at liberty to set the growing plants out at any distance he pleases.

Subsequent treatment.—A good planting-out time is from mid-March to early April, the earlier the better for hardily grown plants. The ground should have been well prepared in

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The Sweet Pea is not a Glutton

advance. For producing the finest blooms put the plants out 14 feet apart, and, taking up two or three growths, train each to a single rod or bamboo cane. From the first all tendrils should be removed from the plants: they are unnecessary when the plants are trained on the " cordon " system, and, moreover, if left, not infrequently coil round stem or flower truss to the detriment of both. Early suppress, too, all axillary growths or side shoots-these appear at the base of the flower-stem and rob it of support-retaining only the main growths and the flower-stems. Watering in times of drought should be carefully done, and only sun-warmed water should be used. Squirting water from a hosepipe with force-often a toy in the hands of the unthinking amateur—is highly dangerous. Should liquid manure be required, the diluted liquid from stable or sheep's dung with soot given very weak will be found suitable. The Sweet Pea plant is not of a gluttonous nature, and no thoughtful cultivator would dream of gorging it with unsuitable food.

E. H. JENKINS.

LAVATERA TRIMESTRIS; h.a.—A handsome bushy mallow with pink or white flowers, 4 feet high; one of the best and showiest of hardy annuals. The pure, rather light pink of the older kind has been partly superseded by a socalled improved colouring of a deeper shade but

Leptosiphons revel in Sunshine

of a slightly rank quality. There is a dwarfer kind of a better colour, called Loveliness.

LEPTOSIPHON; h.a. — Pretty little dwarfgrowing plants, related to *Gilia*, about 6 inches high, with flowers in umbels. *L. aureus*, *L. densiflorus*, *L. d. albus*, and *L. roseus* are the best. They all delight in full sun.

LEPTOSYNE MARITIMA; h.h.a.—Really a perennial, but in our climate treated as a half-hardy annual. It is nearly allied to *Coreopsis*, grows 3 feet high, and has large yellow Daisy flowers.

LIMNANTHES DOUGLASI; h.a.—A charming plant of trailing habit, with an abundance of yellow and white bloom of *Nemophila* shape. Excellent for autumn sowing.

LINARIA MAROCCANA, white variety; h.a.; 12 inches.—A charming plant. It delights in a warm, sunny spot, and is useful, grown in pots, for the conservatory.

LINUM GRANDIFLORUM; h.a.; 18 inches.— The best is *L. grandiflorum rubrum*, the Scarlet Flax; a very showy plant.

LOBELIA ERINUS; h.h.a.; 6 inches.—Not a true annual, but so used in our gardens; well known as a dwarf bedding plant of good blue colour. A good use for it is to fill bare spaces in rock work, but it will not flourish unless it is kept watered. One of the best varieties is Cobalt Blue, if it is to be sown, but there are variously named kinds still better in colour



LEPTOSIPHON DENSIFLORUS HYBRIDUS. A beautiful dwarf hardy annual.



which are propagated by cuttings; the double forms are also very showy.

LOVE-IN-A-MIST. See NIGELLA.

LUNARIA BIENNIS (*Honesty*); biennial.—A very useful plant for half-shady places, 3 feet high, flowering in May. The type plant has flowers of a lightish purple, but a deeper redpurple variety is preferable. The seed-pods, when cleared of the outer husk and seed, leave a satin-like dividing membrane which makes the whole or a large branch an ornamental object for winter decoration. But for this it must be secured at the earliest moment of ripeness and after a spell of dry weather; continued wet stains the inner film and makes it useless. It is sown in April for flowering the following year.

LUPINUS; h.a. — Several of the annual Lupins are much to be recommended. L. Hartwegi, a little under 3 feet, has spikes of pale blue flowers with a misty appearance; the old annual Yellow Lupin, about 2 feet high, is always charming and has a sweet scent. L. hybridus atrococcinius, red and white, is a showy flower; the tall L. mutabilis, and its fine variety Cruikshanki, blue and white, 4 feet high, is a plant of important aspect. For a good continuance of bloom it is necessary to cut out the faded flower-heads before they form seed, which they do very quickly. MAIZE. See ZEA.

MALOPE GRANDIFLORA (*Mallow-wort*); h.a.— One of the handsomest of summer flowers, about 2 feet high, crimson. It should be sown in place in deeply prepared and well-enriched soil.

MARIGOLD. See CALENDULA and TAGETES.

MATTHIOLA ANNUA (Stock); annual and biennial.—This delightful old flower is in several forms, each having many varieties. They comprise the Ten-week Stocks, grown as half-hardy annuals, sown in March in slight heat, pricked off, and planted out in rich soil, of which the finest are those called Pyramidal: the Intermediate Stocks, usually sown in July and wintered in a frame or cool house close to the light, though they may also be treated as annuals, sown in March to flower in autumn. East Lothian Stocks are a hardy form of Intermediate ; they are grown as half-hardy annuals, sown in heat in the middle of February, and are valuable for autumn bloom. Brompton and Queen Stocks are treated as biennials, sown in June or July and transplanted in the open ground in September. Beauty of Nice is a lovely variety of flesh-pink colouring, also sown in July. All Stocks require a deeply dug, well-enriched soil, preferably of a calcareous but not too heavy a nature.

MATTHIOLA BICORNIS (*Night-scented Stock*); h.a.; I foot.—One of the sweetest-scented of garden plants. It should be sown in places



A BORDER OF MALOPES. Easily raised from seed.



where its evening fragrance will be enjoyed. The plant is of no importance in the daytime, but in the evening the drooping flowers rise up and open and give off their wonderful scent.

MAURANDYA BARCLAYANA.—A perennial, but convenient to grow as a half-hardy annual. A beautiful climbing plant of refined appearance, with neat foliage and small purple flowers of Foxglove shape. Sow in March in slight heat, pot singly, and put out in June.

MECONOPSIS INTEGRIFOLIA; biennial. — A very fine pale yellow Poppy of recent introduction, about 2 feet high, good for a cool, halfshady place where the soil is moist but well drained. M. *nepalense* is a taller plant, also with yellow flowers. M. Wallichii, 4 feet high, is very striking from the blue colour, so rare in poppies, of the handsome drooping flowers. It should be remembered that all Meconopsis like shade and damp ground. They are mountain plants, alpines of Central Asia. The seed should be sown in March in pots in a cold frame.

MESEMBRYANTHEMUM CRYSTALLINUM (Iceplant); h.h.a.—A curious plant that always attracts attention and interest from the little glassy knobs with which the deep green, fleshy leaves are covered. It is of trailing habit, and requires a warm exposure. M. pomeridianum and M. tricolor are also good in the rock garden.

MICHAUXIA CAMPANULOIDES; hardy biennial.

An Old Favourite—Mirabilis jalapa

—A fine thing that should be more generally cultivated. It is a tall plant, 3 to 4 feet high, branching near the top to form lateral bloom-bearing shoots. It is nearly allied to *Campanula*, but the flowers are more like Turncap Lilies, the white petals being strongly recurved. It should be grown in a warm, sheltered place. Sow in September in a cold frame and plant out in May.

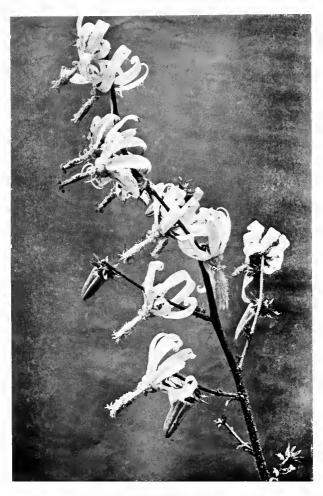
MIGNONETTE. See Reseda.

MINA LOBATA; h.h.a.—A climbing plant, nearly allied to *Ipomæa*, with brilliant red and yellow bloom in autumn. It prefers a light, rich soil and a sunny position.

MIRABILIS JALAPA (*Marvel of Peru*); h.h.a.; 2 feet.—This is really a perennial, but not being quite hardy is treated as a half-hardy annual. It was a favourite plant in our grandmothers' gardens that has rather fallen out of favour, probably on account of the large number of beautiful things we have now to choose from. It forms bushy plants with tuberous roots that can be stored like Dahlias. The flowers are of various colours between white, red, yellow, and lilac. If stored, the roots become inconveniently large by the third year, when young plants from seed are preferable. It likes a warm, sunny, sheltered place. Sow in heat in February, transfer to a cold frame, and plant out early in June.

MULLEIN. See VERBASCUM.

MYOSOTIS (Forget-me-not); 9 to 12 inches.-



MICHAUXIA CAMPANULOIDES. A luttle known but beautiful plant. It is not easy to grow.



Forget-me-nots for the Stream-side

Short-lived perennials, but it is convenient to treat them as biennials, sowing in June in the open for transplanting, or in early autumn where they are to bloom. The finest is M. dissitiflora. Of this and hybrids of M. sylvatica there are a number of garden kinds variously named in different seedsmen's lists; but a good form of the typical M. dissitiflora can hardly be improved upon. M. alpestris is a charming small plant for the rock garden. M. palustris, one of the loveliest of our native plants, is a perennial, easily raised from seed, for the stream-side and damp ground.

NASTURTIUM. See TROPÆOLUM.

NEMESIA STRUMOSA; h.h.a.—Showy flowers, variously coloured, mostly about a foot high. A small-flowered variety named Blue Gem, of soft blue and blue-grey colouring, is a smaller plant, very bushy and effective in late summer. Sow the last week in March, never in a high temperature.

NEMOPHILA INSIGNIS; h.a. — One of the loveliest hardy annuals, pure blue with white centre, of trailing habit. It is much finest autumn sown, when a plant will cover a yard of space. There is a white and also a purple form, and a white spotted with purple. Nemophilas enjoy a cool place in slight shade, and are charming in the cooler parts of rock work.

NICOTIANA AFFINIS.—A perennial, but most

The Best Garden Nigella

conveniently treated as a half-hardy annual. The best kind, 4 feet high, with handsome white bloom fully developed at dusk and very sweetscented. If cut in the evening when the bloom is open it remains expanded in water in the house and gives off its good evening scent. The whole plant has a different and coarser smell in the daytime. The taller N. sylvestris is a fine plant for a large space. The Sanderæ hybrids are useful for conservatory decoration, but N. affinis is the best garden plant. In warm and sheltered places it often retains its true perennial character. N. tabacum is the common Tobacco plant, a rather coarse but handsome thing, 6 feet high, with pink flowers, useful for filling rather large, empty spaces.

NIGELLA DAMASCENA (Love-in-a-Mist); h.a.; 18 inches.—The variety Miss Jekyll is the result of many years' careful selection, and may be said to be the best garden Nigella. The colour is a pure, soft blue of a quality distinctively its own. As it does not remain very long in bloom it should be sown in September, in March, and again in May.

ŒNOTHERA BIENNIS (Evening Primrose); biennial.—The variety Lamarckiana is a very handsome, tall plant, 5 to 6 feet high, with a quantity of large, lemon-yellow bloom, only fully open in the evening or in dull, cloudy weather. Œ. taraxacifolia, also a biennial, has a



ICELAND POPPIES. Charming flowers for indoor decorations.

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Silvery Thistles Eight Feet in Height

trailing habit and is good on a warm bank or rough rock work. The large bloom is white when first opened, changing to pink.

OMPHALODES LINIFOLIA (Venus's Navelwort); h.a.; 18 inches. — This very charming plant should be in every garden, and yet, although it is the easiest thing to grow, it is but seldom seen. It is from I foot to 15 inches high, and has a multitude of milk-white flowers, shaped like Forget-me-not, that are in perfect colour harmony with the grey foliage. When once established it will sow itself again, but it is as well to give it a fresh place every two years. It will thrive anywhere, but rather prefers a place in slight shade where it lasts longer than in the open. It may be sown either in spring or autumn.

ONOPORDON ARABICUM (*Giant Thistle*); hardy biennial.—One of the handsomest of the great Thistles, 8 feet high, with spiny silvery foliage. O. bracteatum is a taller plant of important aspect.

PANSY. See VIOLA.

PAPAVER GLAUCUM (*Tulip Poppy*).—Perhaps the most brilliantly coloured of all annual plants. The flowers are of a deep scarlet colour well set off by the smooth, glaucous foliage. It is much best sown in autumn.

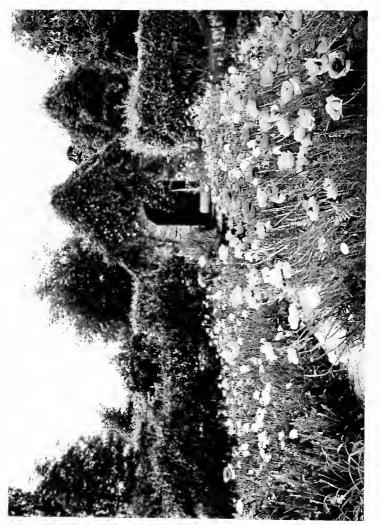
PAPAVER NUDICAULE (*Iceland Poppy*); hardy biennial.—One of the hardiest of garden plants, growing wild within the Arctic Circle. It is 12

Beautiful Poppies

to 15 inches high; the colour typically yellow, but varying from pure white to deep red-orange. Some of the cream- and lemon-white varieties are among the most beautiful and have an appearance of great refinement. *P. alpinum* is like a diminutive *P. nudicaule*; it may possibly be the same plant, only dwarfed by altitude; for it is observed in cultivation that seed sown from true *P. alpinum* produces plants that after two or three years' sowing are not distinguishable from *nudicaule*.

PAPAVER RHEAS (Corn Poppy); 2 feet.— The garden varieties of this handsome native, varying in colour from white to deep red, were formerly called French Poppies, but this older strain has been superseded by the better one known as Shirley Poppies, raised from a wild plant and improved by many years' careful selection by the Rev. W. Wilks, by whose generous distribution of seed, gardens throughout the land have been so greatly benefited. As with all annual Poppies, autumn-sown plants are the finest.

PAPAVER SOMNIFERUM (Opium Poppy).—The double kinds of these grand plants are well known. If it is convenient to give them a place, autumn sown, away from other plants, it is better to do so, as it has been observed that when they are grown in mixed borders they appear to have a baneful influence on the per-



BORDERS OF PERENNIAL AND ANNUAL POPPIES.

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ennials near them. It is also well to isolate them in some place where they will be well seen but that need not be visited at other times than when they are in flower, because their blooming time is not of long duration.

PAPAVER UMBROSUM.—A fine scarlet flower much like an improved Field Poppy, with a black blotch at the base of the petal. Poppies may be sown in March where they are to bloom —the seedlings do not transplant,—but all the kinds are strongest if sown in autumn. It should be remembered that whereas the usual time for autumn sowing of annuals is September, yet all the Poppies are best sown in the end of August.

PENTSTEMON HARTWEGI.—Properly a perennial, but grown as a half-hardy annual. Sown in February in slight heat, it flowers well in late summer. The garden varieties have of late been much improved, and seed from a good house will produce some of the best of summer flowers. Cuttings may be made in autumn or spring.

PETUNIA HYBRIDA; h.h.a. — Very showy flowers of late summer, though they should be avoided by those who dislike the strong crimsonpurple or magenta colourings; but the white varieties, both single and double, are beautiful plants. They are of South American origin, and delight in a warm, sunny place.

PHACELIA CAMPANULARIA; h.a.; 9 inches.-

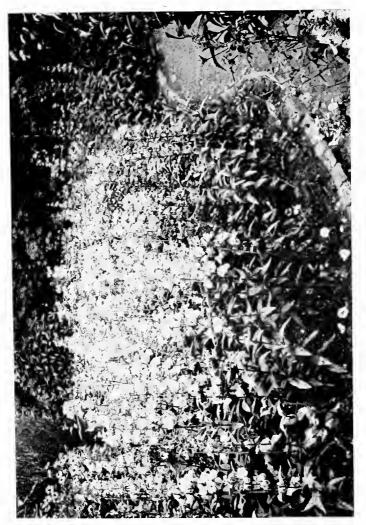
Cream-cups are Neglected Annuals

One of the finest of short-growing annual plants, the bloom being of a pure and perfect blue. *P. tanacetifolia* is a desirable annual too much neglected; 2 feet high, with light purple flowers, curiously arranged in a head of double volute form, that have a mist-like appearance at a little distance.

PHLOX DRUMMONDI; h.h.a.—Brilliant lowgrowing flowers of late summer with a rather trailing habit, in many beautiful shades of colour from white to deepest crimson. A salmoncoloured variety called Chamois Rose, and a good scarlet generally listed as *coccinia*, are among the best. From their low growth and trailing habit they are suited for rock work, especially the dwarf kinds, though the *grandiflora* sorts are the best in the open garden. They should be in full sunshine, and preferably in calcareous soil. Sow quite early in March and grow on in slight warmth.

PLATYSTEMON CALIFORNICUS (*Cream-cups*); h.a.—One of the much-neglected annuals; a desirable plant with considerable charm. The flowers, of a soft, pale yellow, are about an inch wide; the stems and foliage are greyish and the habit trailing. It sows itself, reappearing year after year. Autumn sown it is much more vigorous, a single plant covering a yard of space. It should be in a sunny place.

POLYGONUM ORIENTALE; h.a.; 3 to 4 feet.—



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Pyrethrum Golden Foliage for Edgings

A very graceful Knotweed, much best in the white variety; the type having a harsh magenta colouring. The foliage of the white-flowered plant is of a pale, fresh green, and the flowers arch over gracefully. It likes a cool or even a moist place, and both thrives and looks best in slight shade.

PORTULACCA GRANDIFLORA; h.h.a.—No plants are more pleasing for a hot, sunny bank. They can either be raised in slight heat and planted out in June, or they may be sown in place from the end of April to the end of May. They vary in colouring from light pink to deep crimson, and through all shades of yellow and of yellow and orange, and are both double and single.

PYRETHRUM PARTHENIUM AUREUM (Golden Feather Feverfew); h.a.; 6 to 9 inches.—The dwarf form with the bright golden foliage has been much used for edgings. It was one of the plants that, when summer bedding had usurped the place of more thoughtful ways of gardening, was used in excess in a wearisome monotony of straight or wavy lines, but as an informal accompaniment to such plants of harmonising colour as the fine old *Calceolaria amplexicaulis*, the full value of the plant is obtained. The bloom is generally removed in order to show the golden leaves, but in many cases it is better to leave it, as it breaks the often dull uniformity of the foliage alone.

The Best Forms of Mignonette

RESEDA ODORATA (Mignonette).-This very charming and well-known plant has been improved by cultivation in some ways and yet not much improved in others. The larger and better-filled spike is certainly a gain, but it is very doubtful whether growers have proceeded on right lines in trying to make it a showy flower. The beauty and true charm of Mignonette lie in its sweet scent and modesty of colouring, and it may be noted that the sweetestscented of all is the cheapest sort that is sold by weight. Where there are so many flowers of brilliant colouring for the adornment of our gardens we may well leave Mignonette alone with its own modest colour and incomparable sweetness. For these reasons the kind called Miles's Spiral is one of the best, for the colour is but little altered, and it has a fine spike and excellent scent. Mignonette should be sown thinly where it is to flower.

RHODANTHE MACULATA and R. MANGLESII; h.h.a.; 12 inches.—Pretty pink flowers with papery petals that are among the kinds known as Everlastings, as they can be dried for winter decoration. They are better in pots in the conservatory than out of doors.

RICINUS (*Castor Oil Plant*); h.h.a.—Large plants of handsome foliage. *R. communis* is the largest; the variety *sanguineus* has leaves and stems of a reddish-purple colour. *R. Gibsoni*,



SALVIA FARINACEA. A little known plant; suitable for southern gardens.



also reddish coloured, is a good kind where a shorter plant is required. Sow in heat in February or early March.

SALPIGLOSSIS SINUATA; h.h.a.; $2\frac{1}{2}$ feet.— One of the best late summer annuals, in a series of colourings all of which are beautiful, and, although much varied in tinting, from cream colour through shades of rose and crimson to deepest purple, all go well together. The individual flowers are beautifully marked with a richly coloured veining. There are dwarfer varieties, but the taller are the better garden flowers.

SALVIA ARGENTEA; h.h.a.—Valuable to grow as a biennial on account of its flat rosette of large silvery leaves. The branching spike of white bloom is not of much account, but if it is cut out as soon as it has made a little growth, the silvery leaves remain longer in good condition.

SALVIA HORMINUM is a plant of upright habit about 3 feet high, with showy purple bracts; a variety named Bluebeard is the best. It can be grown as a half-hardy annual or sown direct where it is to bloom.

SALVIA PATENS; 2 feet.—This is a perennial, but is convenient to grow from seed as a halfhardy annual. Its splendid, deep pure blue colour makes it a valuable plant for summer bedding. It does best in rich soil of a loamy character.

Saxifraga Cymbalaria sows itself

SALVIA SCLAREA (Clary); 3 to 4 feet.—A medicinal herb of the old gardens, but is valuable in flower borders where good colour arrangements are desired in association with plants of grey foliage. The actual flower is bluish-lilac and white with an important mauve bract; the whole effect of the large branching spike of mixed and broken colour being extremely delightful to an eye trained to colour. *S. splendens* is a brilliant bedding plant of late summer, 18 inches high, with scarlet bloom. It is usually propagated by cuttings from pottedup plants in spring, but can be grown from seed in the same manner as *S. patens*. The variety Pride of Zurich is one of the finest.

SANVITALIA PROCUMBENS; h.a.; 6 inches.— This bright little plant is like a tiny Sunflower, with its dark disc and yellow-ray florets. There is a double variety all yellow.

SAPONARIA CALABRICA (Soapwort); h.a.; 6 inches; pink.—This is much used as a spring bedding plant, sown in place in September, but it can be grown for summer by sowing in March or April.

SAXIFRAGA CYMBALARIA; hardy biennial; 3 inches.—A bright little spring flower with masses of yellow bloom and bright yellow-green leaves. It sows itself every year, and enjoys a cool bank or the joints of a wall with a northern exposure.



SALVIA SCLAREA

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Sow Sweet Scabious in July

SCABIOSA ATRO-PURPUREA (Sweet Scabious). —Very beautiful garden plants, best grown as hardy biennials, sown in July. They are about $2\frac{1}{2}$ feet high; the large blooms, on long stalks, being in various shades of rich crimson as well as lilac and white. Azure Fairy, a pale lavendercoloured variety, and Snowball, pure white, are specially beautiful. It can also be sown out of doors in April where it is to bloom, or be treated as a half-yearly annual. It is excellent as a cut flower.

SCHIZANTHUS PINNATUS; h.a.; 18 inches; purplish and yellow. — This and S. hybridus grandiflorus are the kinds most suitable for treatment as hardy annuals. The plants are about 18 inches high. Of S. hybridus grandiflorus a strain named Dr. Badger's hybrids are fine plants. S. retusus and its variant S. Grahami, rose and orange, and S. Wisetonensis, paler, with rose-and-yellow centre, are more suitable for pot work in the conservatory, for which use they are sown in August and wintered in a cold frame. Grown as half-hardy annuals, they are sown in February in heat, and treated as usual.

SILENE PENDULA ROSEA; h.a.; 9 inches; pink or rose.—Much used as a spring bedding plant, sown in September, preferably where it is to bloom; or it may be treated as an ordinary annual. SOLANUM ROBUSTUM and S. WARSCEWICZII are really perennials, but are useful plants grown either as biennials or as half-hardy annuals; in the latter case sown in February. They are important plants about 4 feet high and nearly as wide, with handsome foliage and white bloom; good for filling large spaces.

SPHENOGYNE SPECIOSA; h.a. — A pretty yellow Daisy flower about 10 inches high, with darker centre. It can be sown in place but is best grown in slight heat as a half-hardy annual. It should have a sunny place.

STATICE SINUATA; h.h.a.; I foot; lavender and white; there are also pink varieties. It is one of the flowers that will dry for winter decoration and is therefore classed among what are called Everlastings. S. Suworowi is a taller plant whose best use is for the conservatory.

STOCK. See MATTHIOLA.

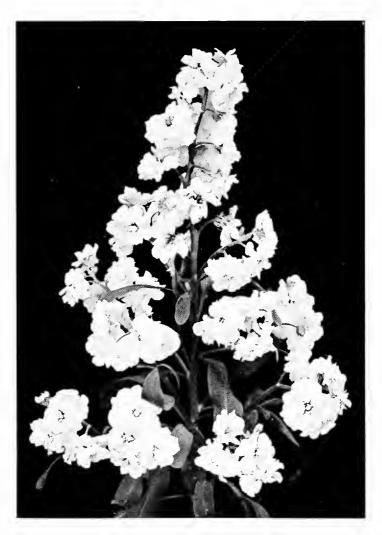
SUNFLOWER. See HELIANTHUS.

SWEET PEA. See LATHYRUS.

SWEET SULTAN. See CENTAUREA.

SWEET WILLIAM. See DIANTHUS.

TAGETES (French and African Marigold); h.h.a. — Tagetes erecta (the African Marigold) is one of the noblest of the late summer flowers, nearly 3 feet high, with bloom of a splendid deep orange colour. There is also the same in a full yellow colouring, and another of a very desirable pale sulphur colour. There are also dwarfer



WHITE STOCK.

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Nasturtiums best in Poor Soil

forms. *T. patula* (the French Marigold) is in several sizes; single and double, tall, short, and very dwarf, in colourings between lemon, orange, and a rich mahogany brown. Those with flowers in which the orange and brown are mixed make the best effect, but the so-called *miniatures* are also in pure colourings of lemon and deep orange. *T. signata pumila* is a valuable plant for dwarf edgings. *T. lucida* is another good kind, though not quite so showy as the foregoing; it is under a foot high, has orange flowers and a strong scent of anise. These Marigolds are often sown too early; the middle of April is quite soon enough, as they germinate and make growth quickly and soon become drawn.

THISTLE. See ONOPORDON.

THUNBERGIA ALATA ; h.h.a.—A tender short climber or trailer with yellow flowers varying to buff and apricot shades, mostly with a rich, dark eye.

TOBACCO. See NICOTIANA.

TORENIA FOURNIERI; g.a.—A charming pot plant, 9 inches high; flowers pale blue richly blotched with purple.

TROPÆOLUM MAJUS (*Nasturtium*); h.a.— The well-known trailing and rambling flower of all gardens. The varieties *minus* are the small bushy kinds in all shades of yellow and red, from nearly cream colour to deepest orange and scarlet. They should not be grown in rich soil or they will make rank foliage that hides the bloom. They last well as cut flowers. *T. lobbianum* and the small-growing double kinds which are usually propagated by cuttings are useful plants in the greenhouse. *T. adnuncum* is the pretty Canary Creeper; a vigorous climber with bright pale yellow, fringed bloom.

VERBASCUM (Mullein); hardy biennial.—Of these stately plants the finest is V. olympicum, 7 to 10 feet high, with enormous candelabrumlike branching spikes of pale yellow bloom. It is classed as a biennial, but the plant may be anything from two to four years old before flowering; meanwhile the great rosette of grey leaves is a fine object. The next in importance is V. phlomoides, of nearly the same height, also with pale yellow flowers, the individual blooms larger, but the whole spike more upright. It is much finer when sown where it is to bloom without being transplanted.

VERBENA.—If a trustworthy strain of seed can be obtained, this charming flower, treated as a half-hardy annual, is all the stronger, but seedlings vary much in colour and only a proportion of true plants can be expected in a batch. The named kinds are usually potted up for the winter for cuttings to be taken in spring. Seed should be sown in heat in January or quite early in February, the seedlings pricked off into pots, and given a further shift as they grow.



MULLEINS IN THE FLOWER GARDEN.





Fancy and Tufted Pansies

VIOLA TRICOLOR (Pansy).—Though actually perennials, it is best to grow Pansies as biennials. They have been so long favourites in gardens that the varieties are very numerous, and a wide choice is offered in seed lists. The best for general use are what are known as Fancy Pansies ; of many colours, some handsomely blotched. The smaller-bloomed tufted Pansies when once obtained can be pulled to pieces and treated as perennials. The seeds are sown in July or August in a cold frame or a shaded and sheltered place out of doors, and are planted out either in autumn or the following spring. When the main first bloom is past its best the plants should be cut nearly to the ground, when they will make fresh growth and bloom again in the autumn. They can also be propagated by cuttings taken in July or August from a plant cut close in June; these are then planted out in October.

WALLFLOWER. See CHEIRANTHUS.

ZEA (*Maize*); h.h.a.; 6 to 8 feet.—The variegated Maize is the most ornamental with flowering plants, though the green is very fine in some combinations. It should be grown in deep and well-manured soil, when it makes grand plants 7 to 10 feet high. If it is desired to keep it dwarfer, the middle growth can be cut out in July when side shoots are forming at the base. These will then increase and make a

Zinnias love Moisture

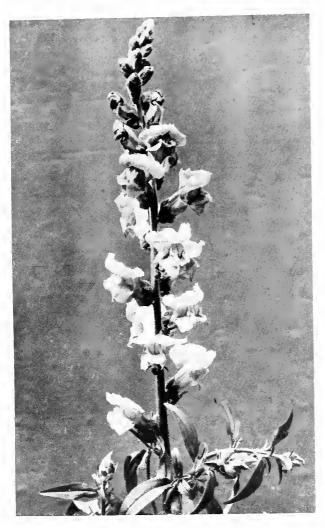
shorter, bushier plant. It should be planted in a slight hollow and be later supplied with a rich compost, as it forms secondary roots from the base of the stem which require good nourishment. It is sown in heat, either direct in pots, or potted when quite small, always in rich soil, and well supplied with water.

ZINNIA ELEGANS; h.h.a.; 2 feet.—Handsome autumn plants, mostly in red and yellow colourings, and both single and double. Sow in heat in April and prick off into boxes, not too closely, or into separate pots. Harden off gradually and put out with the bedding plants. They must have a sunny place in rich soil, and must never suffer from want of water.





PART III



ANTIRRHINUM NELROSE. (One of the best of the newer Snapdragons.)

I. CHART OF COLOUR AND HEIGHT

WHITE FLOWERS

Tall. Antirrhinum. Argemone. Convolvulus. Cosmos. Datura. Foxglove. Impatiens. Lavatera. Maize. Michauxia. Nicotiana. Onopordon. Papaver. Rocket. Sweet Pea.

Medium. Antirrhinum. Arctotis. China Aster. Canterbury Bell. Clarkia. Cornflower. Coreopsis. Lavatera. Mirabilis. Nemesia. Omphalodes. Papaver. Polygonum. Salvia argentea. Scabiosa. Stock. Sweet Sultan. Wallflower.

Short.

Alyssum. Antirrhinum. China Aster. Double Daisy. Chrysanthemum inodorum. Eschscholzia. Gypsophila. Iberis. Ionopsidium. Jacobæa. Linaria. Œnothera. Papaver. Petunia. Phlox Drummondi. Stock. Viola.

YELLOW FLOWERS

Tall.	Medium.	Short.
Antirrhinum.	Antirrhinum.	Antirrhinum.
Chrysanthemum.	Argemone.	Eschscholzia.
Coreopsis.	Bartonia.	Grammanthes.
Cucurbita.	Calendula.	Leptosiphon.
Helianthus.	Celosia.	Limnanthes.
Hollyhock.	China Aster.	Mesembryanthemum.
Hop.	Erysimum.	Mignonette.
Leptosyne.	Gaillardia.	Platystemon.

Chart of Colour and Height

YELLOW FLOWERS—Continued.

Tall. Meconopsis. Œnothera. Papaver. Sweet Pea. Tagetes. Thunbergia. Tropæolum. Verbascum. Medium. Glaucium. Lupin. Meconopsis. Mirabilis. Nemesia. Papaver nudicaule. Salpiglossis. Sweet Sultan. Tagetes. Zinnia. Short. Portulaca. Pyrethrum. Sanvitalia. Saxifraga Cymbalaria. Sphenogyne. Tagetes. Thunbergia. Tropæolum. Viola. Wallflower.

RED, ROSE AND PINK FLOWERS

Tall. Antirrhinum. Chenopodium. Convolvulus. Eccremocarpus. Hollyhock. Impatiens. Lavatera. Mina. Nicotiana. Papaver. Ricinus. Sweet Pea. Tropæolum.

Medium. Alonsoa. Amarantus. China Aster. Canterbury Bell. Celosia plumosa. Clarkia. Godetia. Larkspur. Lavatera. Linum. Malope. Mirabilis. Nemesia. Papaver. Polygonum. Ricinus. Salpiglossis. Salvia. Scabiosa. Schizanthus. Stock. Sweet William. Wallflower. Zinnia.

Short. Alonsoa. Antirrhinum. Cacalia. China Aster. Collomia. Crepis. Dianthus. Diascia. Eschscholzia. Leptosiphon. Mesembryanthemum. Phlox Drummondi. Portulaca. Rhodanthe. Saponaria. Silene. Stock. Tropæolum.



CANTERBURY BELLS IN SCOTLAND.

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Selections for Various Purposes

PURPLE AND BLUE FLOWERS; THOSE OF BLUE COLOUR SPECIFIED

Tall.	Medium.	Short.
Anchusa; blue.	Borago; blue.	Anagallis; blue.
Campanula pyra-	Campauula macro-	
midalis.	styla.	Brachycome; soft
Cobæa scandens.	Canterbury Bell.	blue.
Foxglove.	China Aster.	China Aster.
Ipomæa.	Cornflower ; blue.	Cornflower; blue.
Lunaria.	Didiscus ; soft blue	
Lupin.	Eutoca; blue.	Convolvulus minor;
Maurandya.	Larkspur.	blue.
Meconopsis ; grey-		
blue.	soft blue.	Heliotrope.
Onopordon.	Nigella ; blue.	Kaulfussia.
Rocket.	Phacelia tanaceti-	
Salvia Sclarea.	folia.	Myosotis ; blue.
Sweet Pea.	Salpiglossis.	Nemesia Blue Gem;
	Salvia patens; blue.	grey-blue.
	Salvia Horminum.	Nemophila ; blue.
	Scabiosa.	Petunia.
	Stock.	Phacelia campanu-
	Sweet Sultan.	laria; blue.
	Wallflower.	Statice.
		Stock.
		Viola.

II. SELECTIONS FOR VARIOUS PURPOSES AND ASPECTS

FOR SUNNY BANKS OR BORDERS

Alyssum maritimum. Anagallis. Arctotis grandis. Argemone grandiflora. Asperula. Bartonia. Brachycome. Cosmos. Dimorphotheca. Eryngium. Eschscholzia. Gailardia. Glaucium. Gourds. Grammanthes. Iberis. Papaver. Portulaca. Salvia. Sanvitalia. Sedum. Sphenogyne. Thunbergia. Tropæolum.

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Ν

Selections for Various Purposes

FOR COOL OR SHADY PLACES

Anchusa. Campanula. Foxglove. Impatiens. Lunaria. Nemophila. Nicotiana. Œnothera. Omphalodes. Polygonum. Rocket. Saxifraga.

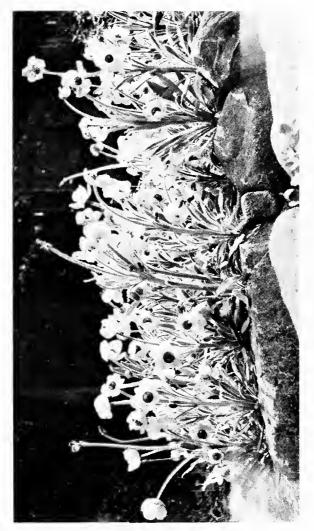
FOR ROCK WORK Kaulfussia.

Alyssum. Anagallis. Asperula. Dianthus. Grammanthes. Gypsophila. Iberis. Ionopsidium.

Leptosiphon. Linaria. Mesembryanthemum. Myosotis. Nasturtium. Nemophila. Enothera. Papaver. Phlox. Portulaca. Sanvitalia. Saxifraga. Saponaria. Silene.

FOR POTS IN GREENHOUSE OR CONSERVATORY

Balsam. Browallia. Campanula. Celosia. Cobæa. Diascia. Ipomæa. Mignonette. Nicotiana. Pentstemon. Rhodanthe. Schizanthus. Thunbergia. Torenia. Tropæolum.



MECONDPSIS INTEGRIFOLIA





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